

TM-301 chassis

Compact and flexible network element platform

Key benefits:

- Compact and highly flexible allowing configuration to any network element type
- Reconfigurable card cage
- Generic backplane enables multiple network element configurations
- Dual fan units and primary power inlets for maximum availability and carrier class performance
- Low Power Design for low power consumption

The TM-Series system platform contains a wide range of active and passive plug-in units optimized for cost-effective Layer 1 and Layer 2 transport. These plug-in units can be mounted in any of the three enclosures TM-3000, TM-301 and TM-101/-102. The selection of enclosure is based upon number of needed board slots and expected space for upgrades.

A TM-301 chassis, for example, can be equipped with any mix of DWDM and CWDM plug-in units in either single-fiber or fiber-pair configurations.

A compact and flexible system platform

The TM-301 chassis is the medium capacity enclosure with up to 3 full-sized and up to 4 half-sized slots. The TM-301 chassis can be configured to any network element (NE) type or combination of NE types. The generic backplane imposes no restrictions on NE type or NE combination. This flexible approach is unique and eliminates the challenges associated with static NE-types, such as Terminal Multiplexer only or Add-Drop Multiplexer only NEs.

Carrier Class

The TM-301 chassis has dual and redundant fan units as well as primary power modules. All connections are made from the front.

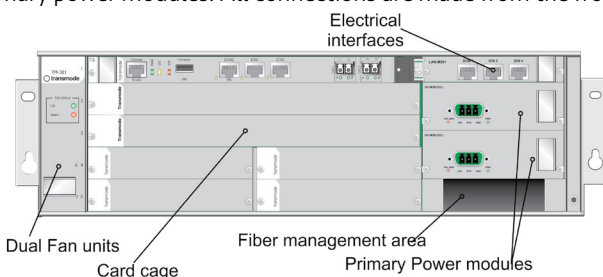


Fig. 1 TM-301 chassis

Reconfigurable card cage

The card cage has 5 slots for plug-in units, for example Transponders, Muxponders, Optical Filters, Amplifiers etc.

The upper slot is dedicated for a Control Unit (CU). This card guide is coded via a yellow color. In the standard configuration the



following two slots are for full-sized units and the remaining two are configured for four half-sized units.

The half-sized units require a small separating wall to support the smaller board sizes. This is a modular wall and the number of half-height units is given by the height of the wall. This height can be reduced to one slot height, giving support for two half-sized units, or totally removed, giving support for all full-sized units.

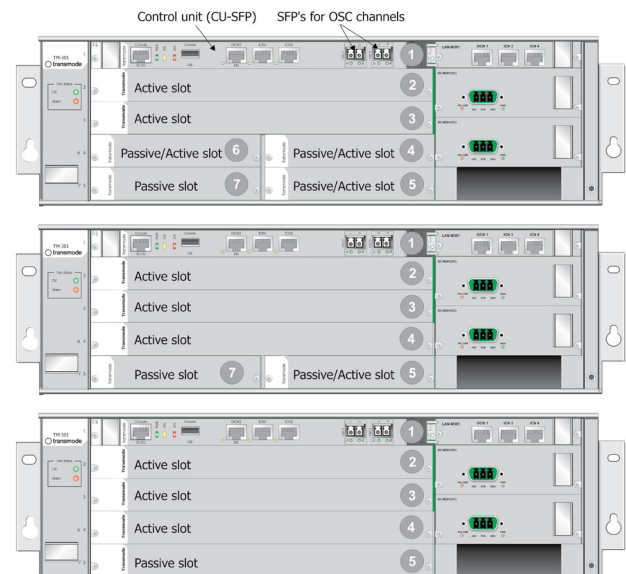


Fig. 2 TM-301 card cage configurations

Full-sized units are normally active traffic devices (e.g. Transponders). Half-sized units are normally passive optical devices (e.g. add/drop filters). Some active half-sized units are also available. See technical documentation for more details.

When a unit is inserted into a card slot, the slot position is detected by the unit and forwarded to the CU. The CU contains the node management SW (ENM) and provides an aggregated management view of all units within the TM-301 chassis. The CU has a backup-copy of all traffic unit configurations and upon a board replacement the previous configuration and correct SW-version can be downloaded to the new unit from the CU.

Similarly, all Traffic units have a backup-copy of the CU configuration, i.e. NE configuration. Upon a CU failure the replacement board can be set into the previous configuration automatically.

Resilience

Dual fan units and dual primary power inlets ensures the performance of the TM-301 chassis. Protection of the traffic can be established in many ways, depending on traffic unit type. Some Layer 1 units provide 1+1 line protection directly. Other traffic units can be configured for equipment protection while Layer 2 units provide protection schemes like LAG, Spanning-Tree etc. See separate documentation for further details.

Low Power Design

A fully equipped TM-301 chassis consumes a maximum of only 160W, with many configurations requiring considerably lower power consumption. Low power consumption in combination with a small footprint reduces site costs and enables more capacity to be handled at sites with restrictions on power consumption, cooling and space.

Technical specifications:

| | |
|------------------------------------|---|
| Dimensions | Height: 3U / 133mm (5.2in) Depth: 280mm (11in) Width: 445mm (17.5in) (excl. mounting brackets) |
| Primary power | DC-inlets. Redundant, Hot-swap |
| Cooling | Redundant fans. Hot-swap |
| Mounting | ETSI, 19", 23" |
| LAN/Management connections | RJ45 |
| Primary power range, DC | 48VDC (40.8 – 57.6VDC), 5A Class III |
| Max power at DC powering | 150 W |
| Max Inrush current @ -48VDC | 4,0A / 4ms |
| Primary power range AC | External AC/DC-converter 100-240VAC, 50/60Hz, 2.5A Class I |
| Max power at AC powering | 160 W |
| Size AC/DC converter | PS1A-120/DS3 excl connectors. Length: 180mm (7.0in) Width: 95mm (3.7in) Height: 50mm (1.9in) |
| Weight DC-powering | 7,5 kg (16.5 lb) mechanics + fan unit + 2x DC TM-301(DC) + LAN module |
| DC cable size | 1,5mm ² (0.002in ²) (connector limit). Standard 1,0mm ² (0.001in ²) |

The specifications and information within this document are subject to change without further notice. All statements, information and recommendations are believed to be accurate but are presented without warranty of any kind. Contact Transmode for more details.
www.transmode.com